BEREZIN, Yu.A.

Low-frequency natural oscillations of a plasma ellipsoid.
Zhur. tekh. fiz. 34 no.6:1124-1126 Je '64. (MIRA 17:9)

BEREZIN, Yu.A.; KARPMAN, V.I.

Theory of nonstationary waves of finite amplitudes in a rarefied plasma. Zhur. eksp. i teor. fiz. 46 no.5:1880-1890 My '64.
(MIRA 17:6)

1. Novosibirskiy gosudarstvennyy universitet.

ILLEGIBLE

ILLEGIBLE

ACCESSION NR: AP4040320

frequencies are characterized by two intergers: the "principal" number n, and the "azimuthal" number m. For fixed n and |m|, the resonant frequency for positive m increases monotonically with the magnetic field. For negative m there are two resonant frequencies, of which the first is very close to the ion Larmor frequency and the second remains always greater than the resonant frequency for positive m. The second resonant frequency for negative m rises to a maximum at the magnetic field for which the electron Larmor frequency is equal to the Langmuir frequency, and decreases with further increase of the magnetic field. For fixed magnetic field and increasing n, the resonant frequencies for negative m have two "condensation" points, of which one is the ion Larmor frequency and the other may fall outside the low frequency region. As the spheroid changes shape from a disc toward a sphere, the second resonant frequency for negative m increases monotonically. Orig.art.has: 5 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 22Apr63 DATE ACQ: 19Jun64 ENCL: 00

SUB CODE: ME NR REF SOV: 001 OTHER: 000

Card 2/2

ACCESSION NR: AP4040320 S/0057/64/034/006/1124/1126

AUTHOR: Berezin, Yu.A.

TITLE: Low frequency resonant oscillations of an ellipsoidal plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1124-1126

TOPIC TAGS: plasma, plasma oscillations, plasmaoid, plasma-magnetic field interaction

ABSTRACT: The author has previously discussed the oscillations of a spheroidal plasma in a uniform magnetic field parallel to the axis (ZhTF 33,788,1963). The problem was treated in the quasistatic approximation (wavelength long compared with the dimensions of the plasma) and the motions of the ions were neglected (frequency large compared with the ion Larmor frequency). He also derived the relevant dispersion equation with the motions of the ions taken into account. In the present note the solutions of this dispersion equation are discussed for frequencies that are small compared with the electron Larmor frequency but not necessarily small compared with the ion Larmor frequency. Most, but not all, of the notation is explained; one might hope to find the missing definitions in the earlier paper. The resonant

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ACC.NR. AP4020571

frequency, the extraordinary wave penetrates the plasma. In this case the azimuthal electric field amplitude is an oscillatory function of distance from the axis, and the plasma density increases, with superposed oscillations, as the distance from the axis is increased. The criterion for the validity of the approximations employed is that the electron velocity be small compared with the product of the frequency of the applied field and a characteristic length which may be either the skin penetration depth or the wavelength. "In conclusion the authors express their gratitude to R.A.Demirkhanov for his interest in the work and for discussions." Orig.art.has: 20 formulas and 4 figures.

ASSOCIATION: none

SUBMITTED: 31Jan63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: PH NR REF SOV: 003 OTHER: 002

Card 3/3

of the alternating field. The system is described by the two-fluid hydrodynamic equations and Maxwell's equations. Longitudinal and transverse temperatures and pressures are distinguished. In the "zeroth approximation", quasineutrality is assumed and the non-linear hydrodynamic terms, the pressure gradients, and the Lorentz forces due to the magnetic component of the variable field are neglected. To these zeroth approximation equations is adjoined the sum of the "first approximation" equations of motion averaged over a period of the high frequency field. From the resulting equations the particle velocities and two of the three components of the alternating field are eliminated. Two differential equations are thus obtained for the plasma density and the azimuthal electric field as functions of the distance from the symmetry axis. These equations were integrated numerically for several values of the parameters, and some of the results are presented graphically. There are two resonant frequencies. For sufficiently dense plasmas these frequencies are approximately the Langmuir frequency and the geometric mean of the ion and electron Larmor frequencies. When the frequency of the applied field is larger than the mean Larmor frequency, the plasma density increases and the alternating field decreases with approach to the symmetry axis. The mathematical simplification that results when the skin penetration depth is small compared with the radius of the plasma filament is discussed briefly. When the applied frequency is smaller than the mean Larmor

S/0057/64/034/003/0448/0453

ACCESSION NR: AP4020571

AUTHOR: Berezin,Yu.A.; Gutkin,T.I.; Lozovskiy,S.N.; Soldatenkov,T.R.

TITLE: Interaction of a plasma with high frequency fields in the presence of a constant uniform magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.3, 1964, 448-453

TOPIC TAGS: plasma, plasma in alternating field, extraordinary wave, plasma in microwave field, skin effect

ABSTRACT: The interaction of an axially symmetric plasma in a uniform longitudinal magnetic field with an axially symmetric high frequency electromagnetic field is discussed theoretically. The high frequency field is assumed to consist of a longitudinal magnetic field and a transverse electric field (extraordinary wave). The case of a longitudinal high frequency electric field and an azimuthal magnetic field has been previously discussed by others (H.A.Boot, S.A.Self and R.B.R.Shersby-Harvie, J.Elec.Contr.,5,435,1958; E.S.Weibel,Ibid.5,435,1958). The motion of the ions and electrons is separated into a rapid component having the frequency of the applied alternating field and the slow component that remains after averaging over a period

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L 18365-63
ACCESSION NR: AP3003946

charts. As the ellipsoid degenerates to a disc, three condensation points develop in the spectrum. A fourth condensation point found for a disc by V.G.Bar'yakhtar, M.I.Kaganov (ZhTF,32, 554, 1962) is not obtained. /Abstracter's note: No explanation of this discrepancy is offered./ The dispersion equation from which the normal frequencies are obtained is generalized to the case in which the motion of the ions is not neglected. "In conclusion, I express my deep gratitude to M.I. Kaganov for suggesting the topic, for valuable advice, and for kindly permitting me to examine his paper prior to publication." Orig.art.has: 26 formulas and 6 figures.

ASSOCIATION: none

SUBMITTED: 22July62 DATE ACQ: 07Aug63 ENCL: 00

SUB CODE: PH MM NO REF SOV: 001 OTHER: 002

Card 2/2

L 18365-63 EWT(1)/EWG(k)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/
IJP(C)/SSD Pz-4/Pab-4/Pi-4/Po-4 AT
ACCESSION NR: AP3003946 S/0057/63/033/007/0788/0794

AUTHOR: Berezin, Yu.A.

80
79

TITLE: Normal oscillations of a plasma ellipsoid in a uniform magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.33, no.7, 1963, 788-794

TOPIC TAGS: plasma oscillation, magnetic field plasma

ABSTRACT: The frequency spectrum of the normal electromagnetic oscillations of a plasma in the shape of an ellipsoid of revolution located in a uniform magnetic field parallel to the axis of symmetry is investigated by a method developed in connection with ferromagnetic resonance by L.R.Walker (Phys.Rev.,105, 390, 1957). The plasma ellipsoid is assumed to have a constant density and to be separated from the vacuum by a sharp boundary, deformations of which are neglected. The dielectric tensor is assumed to provide an adequate description of the electromagnetic properties of the plasma. The frequency spectrum is found to be discrete. It is discussed in some detail, and its dependence on the strength of the external magnetic field and on the shape of the ellipsoid is illustrated with curves and

Card 1/2

BEREZIN, Ye. N., inzh.

New diagrams of high productivity ingot feed. Trudy Ural'. politekh. inst. no.119:16-21 '62. (MIRA 16:1)

(Rolling mills--Equipment and supplies)
(Steel ingots--Transportation)

VYDRIN, V.N., kand.tekhn.nauk; BEREZIN, Ye.N., inzh.; KHIMICH, G.L.; TRET'YAKOV, A.V.; FEDOROV, M.I.; VASHCHENKO, Yu.I.

"Mechanical equipment of rolling mills" by A.A. Koroleva. Reviewed by V.N. Vydrin and others. Stal' 22 no.1:61-63 Ja '62. (MIRA 14:12)

1. Chelyabinskiy politekhnicheskiy institut (for Vydrin, Berezin). 2. Nauchno-issledovatel'skiy konstruktorsko-tekhnologicheskiy institut tyazhelogo mashinostroyeniya Uralmashzavoda i Ural'skiy politekhnicheskiy institut (for Khimich, Tret'yakov, Fedorov).
(Rolling mills--Equipment and supplies)
(Koroleva, A.A.)

PAL'MOV, Ye.V., prof., doktor tekhn.nauk; BEREZIN, Ye.N.; aspirant

Intensifying the operation of ingot cars. Trudy Ural.politekh. inst. no.101:6-12 '60. (MIRA 14:3)
(Rolling (Metalwork)) (Feed mechanisms)

BEREZIN, Ye.N., aspirant

Maximum-load cycle in the electric drive of an ingot car.
Trudy Ural.politekh.inst. no.101:116-123 '60. (MIRA 14:3)
(Rolling (Metalwork)) (Feed mechanisms)

BEREZIN, Ye.N., insh.

Determination of the maximum acceleration of ingot cars.
Izv.vys.ucheb.zav.; chern.met. 2 no.7:111-117 Jl '59.
(MIRA 13:2)

1. Ural'skiy politekhnicheskiy institut. Rekomendovano kafedroy mekhanicheskogo oborudovaniya metallurgicheskikh zavodov Ural'skogo politekhnicheskogo instituta.
(Railroads, Industrial--Electric driving)
(Metallurgical plants--Equipment and supplies)

PA - 2254

The Spatial Distribution of the Flows of γ -Rays and of Slowed down Neutrons in the Graphite Column of a Physical-Technical Reactor.

distribution of fast neutrons then determines the spatial distribution of resonance neutrons. The experimental results obtained here are essentially a confirmation of the theory.
(5 illustrations).

ASSOCIATION: Not given.
PRESENTED BY:
SUBMITTED: 17.5.1956.
AVAILABLE: Library of Congress.

Card 3/3

The Spatial Distribution of the Flows of γ -Rays and of Slowed-down Neutrons in the Graphite Column of a Physical-Technical Reactor.

prosium indicator. As an indicator of the resonance neutrons, Indium surrounded by cadmium, gold and Iodine were used. Measurements were carried out when reactor operation had become steady. Measuring results of the spatial dispersion of the neutron fluxes of different energies in graphite are shown in form of diagrams. The neutron flux is diminished much more at the beginning of the thermal column than at its end. The curves of the reduction of the neutron fluxes change noticeably at a distance of from 160 to 180 cm. The fluxes of the resonance neutrons and of the fast neutrons are exponentially attenuated. The course of the curve of the density of thermal neutrons is discribed quite accurately by an exponential relation with the relaxation length $L = 21,6 \pm 0,1$ cm. Also the decrease of the dosage of γ -rays in a graphite column is shown in a diagram.

Discussion of the results: In the asymptotic domain spatial and energy distribution of the slowed down neutrons is determined by that energy which corresponds to maximum scattering length. At great distances (> 180 cm) the resonance neutrons are probably produced by penetrating of fast neutrons. The spatial

AUTHOR: BEREZIN,V.S., GROSHEV,L.V., DIKAREV,V.S., EGIAZAROV,M.B., KOROLEV,E.N., MADEEV,V.G., NIKOLEYEV,YU.G. PA - 2254

TITLE: The Spatial Distribution of the Folws of γ -Rays and of Slowed-down Neutrons in the Graphite Column of a Physical-Technical Reactor. (Prostranstvennoye razpredeleniye potokov γ -luchey i zamedlyayu sochikh neytronov v grafitovoy kolonne reaktora RFT, Russian).

PERIODICAL: Atomnaia Energiia, 1957, Vol 2, Nr 2, pp 118 - 122 (U.S.S.R.)

ABSTRACT: This distribution was investigated in spring 1953. The results obtained are suited also as experimental material for controlling the theory as well as for the computation of the spatial distribution of γ -rays and slowed down neutrons.

Experimental details: The thermal column (of graphite) of this reactor has a cross section of 100 x 100 cm^2 and a length of 200 cm. This column is separated from the active zone of the apparatus by an 80 cm thick graphite reflector and by a 45 cm thick layer of air and the sidewalls are surrounded by concrete. An experimental channel leads along the axis of the column, which is filled with graphite rods. The indicators were irradiated in the cavities of these graphite rods. The development of the density of thermal neutrons in graphite was measured by a dys-

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BEREZIN, V.P. (Tomsk)

Results of the study on the health of nursing infants in relation to their living conditions. Sov. zdrav. 21 no.9:30-34 '62
(MIRA 17:4)

1. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny (zav. - prof. N.F. Fedotov) Tomskogo meditsinskogo instituta (rektor - prof. I.V. Toroptsev).

KASHTANOV, I.N., glav. red.; BEREZIN, V.P., red.; IOSIFOVICH, N.L., red.; POTEMKIN, S.V., red.; SHILO, N.A., doktor geol.-miner. nauk, prof., red.; FROLOVA, M.F., red.

[10 years of Magadan Province] 10 let Magadanskoi oblasti. Magadan, Magadanskoe knizhnoe izd-vo, 1963. 210 p.
(MIRA 17:8)

1. Direktor kompleksnogo nauchno-issledovatel'skogo instituta Sibirskogo otdeleniya AN SSSR (for Shilo). 2. Direktor nauchno-issledovatel'skogo instituta zolota i redkikh metallov (for Potemkin). 3. Sekretar' oblastnogo komiteta KPSS (for Kashtanov).

ANDRIANOV, Aleksandr Alekseyevich; POTEMKIN, S.V., glavnyy red.; MATSUYEV, L.P., zamestitel' glavnogo red.; SHAKHNAROVICH, L.A., red.; BEREZIN, L.P., red.; VESELOV, V.V., red.; GOLANDSKIY, D.B., red.; GOL'DTMAN, V.G., red.; IGNATENKO, M.A., red.; SHASHURA, M.V., red.; RIVKIN, G.M., red.; FIRSOV, L.V., red.; SHEPELEV, I.T.

[Methods of analytic decomposition of cassiterite and tin ores] Metody analiticheskogo razlozheniia kassiterita i rud olova. Magadan, 1962. 14 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy Obogashchenie i metallurgiia, no.53). (MIRA 16:7)
(Cassiterite--Analysis) (Tin ores--Analysis)

SHOROKHOV, Sergey Mikhaylovich, prof., doktor tekhn. nauk; SBOROVSKIY, V.V.; BEREZIN, V.P., retsenzent; KUDRYASHEV, V.A., kand. tekhn. nauk, retsenzent; DIDKOVSKIY, D.Z., otv. red.; KIT, I.K., red.izd-va; MAKSIMOVA, V.V., tekhn. red.

[Working placer deposits and the principles of planning] Razrabotka rossypnykh mestorozhdenii i osnovy proektirovaniia. Moskva, Gosgortekhizdat, 1963. 764 p. (MIRA 16:10)

1. Zamestitel' predsedatelya Severo-Vostochnogo sovnarkhoza (for Berezin). 2. Irkutskiy politekhnicheskiy institut (for Kudryashev).

(Hydraulic mining)

RED'KIN, V.K.; POTEMKIN, S.V., glavnyy red.; MATSUYEV, L.P., zamestitel' glavnogo red.; SHAKHNAROVICH, L.A., red.; BEREZIN, V.P., red.; VESELOV, V.V., red.; GOLANDSKIY, D.B., red.; GOL'DTMAN, V.G., red.; IGNATENKO, M.A., red.; SHASHURA, M.V., red.; RIVKIN, G.M., red.; FIRSOV, L.V., red.; SHEPELEV, I.T., red.

[Grounding and protective cutting-off in underground workings of permafrost placer deposits.] Zazemleniia i zashchitnye otkliucheniia pri podzemnoi razrabotke mnogoletnemerzlykh rossypei. Magadan, Vses. nauchno-issl. in-t zolota i redkikh metallov, 1962. 26 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy, Gornoe delo, no.40) (MIRA 16:6)

(Kolyma Valley—Electric protection)
(Kolyma Valley—Placer deposits)

SHILO, Nikolay Alekseyevich; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Some principles for classifying placer deposits] Nekotorye printsipy rossypnykh proiavlenii. Magadan, 1958. 20 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy, Geologiia, no. 36). (MIRA 12:4)

(Ore deposits--Classification)

MANUYLOV, Pavel Ivanovich; GALKIN, Georgiy Semenovich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Peat lifting by means of excavating machinery in stripping placer deposits in the Northeastern U.S.S.R.] Vskrysha torfov zemleroinymi mashinami na priiskakh Severo-Vostoka SSSR. Magadan, 1958. 68 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Gornoe delo no.19) (MIRA 12:5)

(Soviet Far East--Gold ores) (Peat) (Excavating machinery)

KALABIN, Aleksey Il'ich; SHULO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; FOMENKO, T.G., red.; BEREZIN, V.P., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; VANSHEYDT, N.A., red.

[Underground waters in the northeastern part of the U.S.S.R.] Podzemnye vody Severo-Vostoka SSSR. Magadan, 1958. 85 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Merzlotovedenie, no.9). (MIRA 12:4)
(Russia, Northern--Water, Underground)
(Frozen ground)

FIRSOV, Lev Vasil'yevich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, F.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FOMENKO, T.G., red. (MIRA 12:4)

[Structure, morphology, and mineralization of the Igumenskoye gold deposit] Struktura, morfologiia, mineralogiia i orudenenie Igumenovskogo zolotorudnogo mestorozhdeniia. Magadan, 1958. 71 p. (Magadan, Vsesoiuznyi nauchno- issledovatel'skii institut zolota i redkikh metallov. Trudy, no.33)
(Tenuke Valley--Gold ores)

FOMENKO, Timofey Grigor'yevich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam. otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; VANSHEYDT, N.A., red.

[Principles of the ore dressing process with use of concentrating tables] Osnovy protsessa obogashcheniia rud na kontsentratsionnykh stolakh. Magadan, 1958. 35 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Obogashchenie i metallurgiia, no.27). (MIRA 12:4)
(Ore dressing--Equipment and supplies)

GAVRIKOV, Sergei Ivanovich; SHILO, Nikolay Alekseyevich, otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Division of the upper Indigirka Valley into tectonic regions] O tektonicheskom raionirovanii basseina verkhnego techeniia r. Indigirki. Magadan, 1958. 17 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Geologiia, no.38). (MIRA 12:4)

(Indigirka Valley--Geology, Structural)

KARTASHOV, Ismail Pavlovich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv. red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BOGDIN, V.P., red.; KALABIN, A.I., red.; KUSHNAREV, G.G., red.; MITSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Principles for making geomorphological prognosis maps of placer deposits] O printsipakh postroeniia geologo-geomorfologicheskikh prognoznykh kart rossypei. Magadan, 1958. 49 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Geologiia, no.17). (MIRA 12:4)

(Ore deposits--Maps)

PETROV, Appolinariy Stepanovich; SHILO, N.A., otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; POTEMKIN, S.V., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; VANSHEYDT, N.A., red.

[Production and use of soil concrete blocks in the construction of buildings of few stories] Proizvodstvo i primenenei gruntoblokov v maloetazhnom stroitel'stve Magadan, 1958. 47 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Mestnye stroimaterialy, no.7) (MIRA 12:5)

(Soil cement) (Building blocks)

BEREZIN, Vasiliy Pavlovich; ZOTOV, Georgiy Aleksandrovich; SHALAYEV, Stepan Alekseyevich; YERMOLIN, I.P., red.; MYAKUSHKO, V.P., red.izd-va; KARLOVA, G.L., tekhn. red.

[Potentials for increasing labor productivity; from the work practice of the Olenino Lumbering Camp] Rezervy rosta proizvoditel'nosti truda; iz opyta raboty Oleninskogo lespromkhoza. Moskva, Goslesbumizdat, 1963. 77 p. (MIRA 16:12)

(Olenino (Kalinin Province))--Lumbering--Labor produktivity)

ZOTOV, [illegible] BEREZIN, V.[illegible]; SHALAYEV, S.A.; KESSEL', I.V.; POL[illegible]SEV, V.A., red.

[Olenino Logging Camp] Oleninskii lesopromkhoz. Khimki, TSentr. nauchn. issl. in-t mekhanizatsii i energetiki lesnoi promyshl., 1962. 30 p. (MIRA 16:4)
(Olenino region--Lumbering)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800011-6

BEHRMAN, V.P.

KT-12 tractors with demountable crane equipment in loading lumber.
Les.prom. 14 no.1:14-15 Ja '54. (MLRA 7:1)
(Lumbering--Machinery) (Cranes, Derricks, etc.)

BEREZIN, V.P., inzhener; ZOTOV, G.A., inzhener.

Experience of the most efficient lumber camps. Mekh.trud.rab. 7 no.7: 5-10 Jl '53. (MLRA 6:7)
(Lumber camps)

LEVIN, A.A.; BEREZIN, V.P.

Mechanized cutting of rolled paper and rolled cardboard. Med.prom. 16 no.4:42-44 Ap '62. (MIRA 15:8)

1. Mediko-instrumental'nyy zavod "Krasnogvardeyets".
(PAPER-CUTTING MACHINES) (MEDICAL TECHNOLOGY)

Experimental Examinations of the Processes During Extinguishing a Free Alternating Current Arc

SOV/161-58-4-13/28

At voltages of 380 v, currents below 10 a break at the first interruption (copper contacts). There are 6 figures.

ASSOCIATION: Kafedra elektroapparatostroyeniya Moskovskogo energeticheskogo instituta (Chair for the Construction of Electrical Apparatus at the Moscow Institute of Power Engineering)

SUBMITTED: July 5, 1958

Card 4/4

the ratio between the maximum of the returning voltage and the returning voltage with industrial frequency. If K_a and the circuit parameters are known, the remaining resistance r_s of the arc column can be determined. Based on the experiments by Professor O. B. Bron, it was found that for guaranteeing the arc erasion at high amperages, it is appropriate having not too great contact gaps. Besides, it was established that it is also appropriate for the switching-off of low amperages to have small contact gaps, which is illustrated on the diagram of figure 5. The dependence of the initial strength of the gap on the amperage to be switched-off, for various contact materials, is shown in the form of a curve on figure 6. The experiment made here, showed that repeated zero crossings can occur within the range of the examined amperages at a voltage of 220 v, provided a high characteristic frequency of the circuit (some dozen kcycles) and a great amplitude coefficient (1.5-2.0) exist, and contact materials with a small initial stress (silver-graphite, silver-tungsten, copper) are used.

shows a diagram which gives the dependence obtained by experiment of the critical characteristic frequency f_o of the circuit on the phase-shift angle φ at constant voltage for various amperages of the switched-off current. These curves enable choosing such parameter combinations for the circuit to be switched-off, where the extinguishing of the arc is guaranteed during a half period. Figure 3 shows the diagram for the dependence of the number of re-strikings of the arc in percent on the time of the contact opening t_p. This curve is of a statistical character, having been obtained through numerous experiments. From the point of view of arc extinguishing, the time of contact-opening $t_p = (\frac{\pi}{2})$, which lies in the center of the half period, is most favorable. On the other hand, the opening of the contacts at a time when the current curve approaches zero, eliminates almost entirely the re-striking of the arc. The cathode oscillograms for the returning voltage obtained during the tests, allow the determination of the amplitude coefficient K_a. K_a represents

8 (2)

AUTHORS: Tayev, Ivan Sergeyevich, Candidate of Technical Sciences, Docent, Berezin, Vladimir Nikolayevich, Senior Engineer — SOV/161-58-4-13/28

TITLE: Experimental Examinations of the Processes During Extinguishing a Free Alternating Current Arc (Eksperimental'noye issledovaniye protsessov gasheniya svobodnoy elektricheskoy dugi peremennogo toka)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1958, Nr 4, pp 96-99 (USSR)

ABSTRACT: Some results of examinations of the arc which forms on the contacts of a device during the switching-off of small current intensities (5-130 a), at voltages of 127-700 v and a frequency of 50 c, are given here. These experiments were carried out in the Laboratory for the Construction of Electrical Apparatus of the MEI. The examinations were mainly made to establish the conditions which are determined by those parameters of the switched-off circuit and the switched-off apparatus, where the alternating current arc is extinguished at the first zero crossing. The diagram shown on figure 1 was used for measuring the burning time of the arc. Figure 2

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L 36378-66

ACC NR: AP6017591

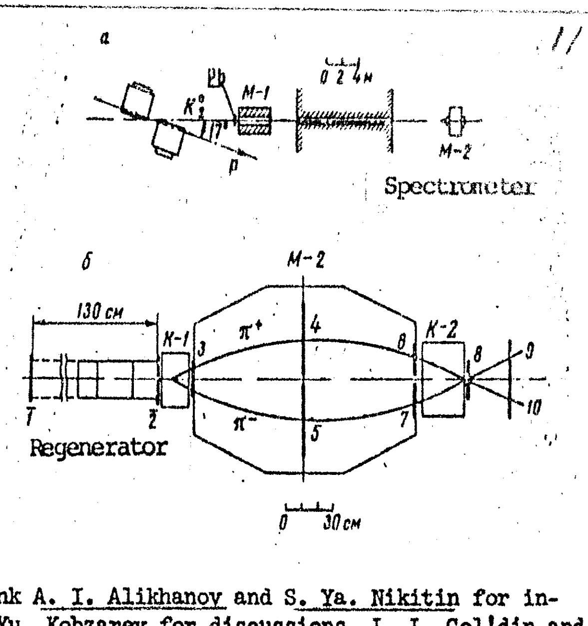

Fig. 1. Experimental setup. a - Beam diagram, b - magnetic spectrometer diagram (the numbers denote particle counters).

using similar methods. The authors thank A. I. Alikhanov and S. Ya. Nikitin for interest in the work, L. B. Okun' and I. Yu. Kobzarev for discussions, L. L. Gol'din and his crew for operating the accelerator, and A. K. Dubasov, V. N. Markizov, N. P. Naumov, V. F. Stolyarov, V. N. Kuz'menkov, and Yu. S. Oreshnikov for help with the apparatus and the measurements. Orig. art. has: 4 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 30Jun65/ ORIG REF: 003/ OTH REF: 006

Card 2/2

L 36378-66 EWT(m)/T

ACC NR: AP6017591 SOURCE CODE: UR/0367/66/003/002/0321/0326

AUTHOR: Vishnevskiy, M. Ye.; Galanina, N. D.; Semenov, Yu. A.; Kruptchitskiy, P. A.; Berezin, V. M.; Murysov, V. A.

ORG: none

52
41
B

TITLE: Measurement of the mass difference of K_2^0 and K_1^0 mesons 19

SOURCE: Yadernaya fizika, v. 3, no. 2, 1966, 321-326

TOPIC TAGS: K meson, mass spectrometry, pion, meson interaction

ABSTRACT: In view of the discrepancies between the experimentally measured mass differences of the K_2^0 and K_1^0 mesons, the authors have measured this mass difference by a coherent regeneration method, based on measurement of the dependence of the intensity of the coherent regeneration of K_1^0 mesons in a beam of K_2^0 mesons on the thickness of the regenerator (copper or aluminum). The experiment was carried out in the ITEF 7-Gev proton accelerator (Fig. 1). The method and the apparatus are briefly described. The K_1^0 mesons were registered by means of the $K_1^0 \to \pi^+ + \pi^-$ decay with the aid of a magnetic spectrometer with scintillation counters and spark chambers. The distributions of the interaction events with respect to the masses of the decaying particle and with respect to the angle between its momentum and primary-beam directions are given. A total of 196 coherently-regenerated K_1^0 mesons were found in 375 tracks. A mass difference of 0.82 ± 0.14 ($\hbar/\tau_1 c^2$), where $\tau_1 = 0.92 \times 10^{-10}$ sec, was obtained. The distribution of the registered K_1^0 mesons had a maximum at 1.8 Gev/c and dropped to zero at 0.9 and 4 Gev/c. This result agrees well with those obtained by others

Card 1/2

BEREZIN, V.M.

Short-range forecasting of the baric and kinematic fields of the atmosphere by the complete system of equations of hydrodynamics. Izv. AN SSSR. Fiz. atm. i okeana 1 no.8:781-787 Ag '65.
(MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

L 1962-66
ACCESSION NR: AT5024122 10

S. Ya. Nikitin for their interest in the work, L. B. Okun' and I. Yu. Kobzarev for their discussion, L. L. Gol'din and members of the technical staff for supervising the operation of the accelerator, and A. K. Dubenov, V. N. Markizov, N. P. Naumov, V. N. Kuz'menkov, and Yu. S. Oreshnikov for assistance in setting up the apparatus and for carrying out the measurements." Orig. art. has: 4 figures, 1 formula.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki, Gosudarstvennyy komitet po izpolzovaniyu atomnoy energii (Institute of Theoretical and Experimental Physics, State Committee for Application of Atomic Energy)

SUBMITTED: 16Apr65 ENCL: 00 SUB CODE: NP

NO REF SOV: 005 OTHER: 005

Card 2/2

L 1962-66 EWT(m)/T/EWA(m)-2

ACCESSION NR: AT5024122 UR/3138/65/000/348/0001/0015 27 17 B+1

AUTHOR: Vishnevskiy, M. Ye. Galanina, N. D.; Semenov, Yu. A.; Krupchitskiy, P. A.; Berezin, V. M.; Murysov, V. I.

TITLE: Measurement of the difference in the masses of K_2^0- and K_1^0- mesons

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 348, 1965. Izmereniye velichiny raznosti mass K_2^0- and K_1^0, 1-15

TOPIC TAGS: meson beam, K meson, pi meson

ABSTRACT: The value of the difference in the masses of K_2^0- and K_1^0-mesons was obtained by measuring the dependence of the intensity of coherent regeneration of K_1^0-mesons in a beam of K_2^0-mesons on the thickness of the regenerator (copper and aluminum). K_1^0-mesons were recorded on the basis of the decay $K_1^0 \to \pi^+ + \pi^-$ with the aid of a magnetic spectrometer with scintillation counters and spark chambers. The distributions of the events over the mass of the decaying particle and angle between its momentum and the direction of the primary beam are given. In all, 196 events of coherently regenerated K_1^0 mesons were recorded. The value $\Delta m = (0.82 \pm 0.14)\hbar/\tau_1 c^2$ was obtained. "The authors thank Academician A. I. Alikhanov and

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L 3675-66

ACCESSION NR: AP5021864 9

are solved by Laplace-Carson transformations. The solutions turn out to be various combinations of influence (Green) functions which can be expressed in terms of zero order Bessel functions and Struve functions. The behavior of the Green functions is investigated by the numerical "step" method for times up to 12 hours and for $0 \leq r/R \leq 1$ (r is the distance from the observation point, R is the gas constant). To solve for the pressure fields, it is necessary to know either the components of the initial wind velocity and the temperature field, or the initial pressure function and its time derivative. The equilibrium of the pressure field involves an integral-differential equation and is solved by "time steps" in a method similar to that used by I. A. Kibel' and A. F. Dyubyuk. The technique is applicable to mountainous regions where there are large vertical winds, which play a substantial role in determining orographic cyclogenesis. The author thanks A. M. Obukhov and A. F. Dyubyuk for their assistance. Orig. art. has: 2 figures and 12 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 20Jan65 ENCL: 00 SUB CODE: ES, MA

NO REF SOV: 007 OTHER: 000

Card 2/2

L 3675-66 EWT(1)/FCC GW

ACCESSION NR: AP5021864 UR/0362/65/001/008/0781/0787
551.511

AUTHOR: Berezin, V. M.

TITLE: A short range forecast of the barometric and velocity fields of the atmosphere, based on a complete system of hydrodynamic equations

SOURCE: AN SSSR, Izvestiya. Fizika atmosfery i okeana, v. 1, no. 8, 1965, 781-787

TOPIC TAGS: weather forecasting, velocity profile, pressure field, barometric pressure, atmospheric pressure, hydrodynamic equation, Laplace transformation, Green function

ABSTRACT: A method for solving a complete system of thermohydrodynamic equations of an ideal incompressible fluid in an adiabatic process is proposed in order to give a more complete evaluation of the pressure and velocity fields of the atmosphere for short range weather forecasting. The method is based on calculating (in the left-hand member of the third equation of motion) the vertical acceleration and the product of the acceleration of gravity multiplied by the divergence of the temperature from the average value. Linear terms are introduced into all the left-hand members of the equations. Both the uniform and nonuniform systems

Card 1/2

BEREZIN, V.M., kand. fiz.-matem. nauk

Anatolii Fedorovich Diubiuk, 1895; on his 70th birthday. Meteor. i gidrol. no.8:63 Ag '65. (MIRA 18:7)

BEREZIN, V.M.

Prof. A.F. Diubiuk. 1895- ; on his 70th birthday. Izv. AN SSSR Fiz. atm. i okean. 1 no.7:771-772 Jl '65. (MIRA 18:8)

BEREZIN, V.M., kand. fiz.-matem. nauk; SHAFRIN, Yu.A.

Some results of numerical analysis of the vertical distribution of ozone. Meteor. i gidrol. no.6:23-29 Je '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet.

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ACCESSION NR: AP4033638

of the linearized problem, using the method of separation of variables. The solution is obtained in a spectrum of harmonics; as a result of the nonlinear terms the problem must be solved numerically with time steps as indicated. "The author thanks Professor A. F. Dyubyuk for valuable advice and attention to the work." Orig. art. has: 17 formulas.

ASSOCIATION: Kafedra fiziki i atmosfery*, Moskovskiy universitet (Department of Physics and the Atmosphere, Moscow University)

SUBMITTED: 22Jan63 DATE ACQ: 30 Apr64 ENCL: 00

SUB CODE: ES NO REF SOV: 005 OTHER: 000

Card 4/4

ACCESSION NR: AP4033638

System (1) can be reduced to an integro-differential system by its solution relative to u, v, w, Q, expressing them through F_i. It is easy to show that system (1) can be reduced to the equation

$$\left[\frac{\partial^2}{\partial t^2}\left(\frac{1}{c^2}\frac{\partial^2}{\partial t^2}-\Delta\right)+\beta^2\left(\frac{1}{c^2}\frac{\partial^2}{\partial t^2}-\frac{\partial}{\partial z^2}\right)\right]Q=\Phi, \tag{3}$$

where Φ are nonlinear terms. If it is assumed that $\frac{1}{c^2}\approx 0$, equation (3) can be written

$$\frac{\partial^2}{\partial t^2}\Delta Q+\beta^2\frac{\partial^2 Q}{\partial z^2}=\Phi_1. \tag{4}$$

and this equation will be used for prognostic purposes. The problem of predicting the field Q using equation (4) for an unbounded space already has been solved. However, computations have shown that use of an unbounded region for forecasting leads to considerable complexities when obtaining a solution on electronic computers. Equation (4) therefore will be used for forecasting the field Q with boundary conditions. Due to the nonlinearity of the right-hand side of equation (4) the problem will be solved numerically in time steps using initial data for the field Q for two times of observation. It is assumed that the solution obtained analytically will be correct for each time step. The solution for each step is found by solution

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ACCESSION NR: AP4033638

123, No. 2, 1958).

$$\begin{aligned} u_t - lv + Q_x &= -(\vartheta Q_x + uu_x + vu_y + wu_z) \equiv F_1, \\ v_t + lu + Q_y &= -(\vartheta Q_y + uv_x + vv_y + wv_z) \equiv F_2, \\ w_t + Q_z &= -[\vartheta (Q_z - g) - uw_x + vw_y + ww_z) \equiv F_3, \\ \frac{1}{c^2} Q_t + u_x + v_y + w_z &= -\frac{1}{c^2} [uQ_x + vQ_y + w(Q_z - g)] \equiv F_4, \\ \vartheta_t + \frac{AR}{c_v}(u_x + v_y + w_z) &= \frac{AR}{c_v} \vartheta (u_x + v_y + w_z) - (u\vartheta_x + v\vartheta_y + w\vartheta_z) \equiv F_5. \end{aligned} \tag{1}$$

where u, v, w are the wind velocity components, g is acceleration of gravity, $l = 2\omega \sin \varphi$ is the Coriolis force, ω is the angular velocity of the earth's rotation, φ is latitude. In the local problem it is assumed that l = const. It also is assumed that $T = T' + T_0$, where T_0 is a constant value (such as 273°), $\vartheta \frac{T'}{T_0}$, $Q = RT_0 \ln \frac{p}{p_0} + gz$, where p is pressure, p_0 = 1000 mb, R is the gas constant, A is the thermal equivalent of work, $c^2 = \frac{c_p}{c_v}$. When t = 0 the initial conditions are denoted:

$$u = \overset{\circ}{u},\ v = \overset{\circ}{v},\ w = \overset{\circ}{w},\ Q = \overset{\circ}{Q},\ \vartheta = \overset{\circ}{\vartheta}. \tag{2}$$

Card 2/4

ACCESSION NR: AP4033638 S/0188/64/000/002/0079/0081

AUTHOR: Berezin, V. M.

TITLE: Nonlinear boundary problem of forecasting the field of atmospheric pressure for a limited space

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 2, 1964, 79-81

TOPIC TAGS: meteorology, weather forecasting, atmospheric pressure

ABSTRACT: In weather forecasting the central problem usually is precomputation of the field of atmospheric pressure. Two approaches usually are used for this purpose: the Cauchy problem is solved for an unbounded space or a boundary problem is solved. In this article the boundary problem is solved for forecasting the field of atmospheric pressure, using the full system of equations in hydrodynamics proposed by A. F. Dyubyuk (DAN SSSR,

Card 1/4

KOVALENKO, K.I. MARKHASIN, I.L.; BEREZIN, V.M.; PANTELEYEV, V.G.

Increasing the oil yield of beds by injecting carbonated water.
Neft. khoz. 42 no.11:6-9 N '64 (MIRA 18:?)

BEREZIN, V.M.; SHAFRIN, Yu.A.

Calculation of the vertical distribution of atmospheric ozone.
Geomag. i aer. 4 no.1:131-136 Ja-F'64. (MIRA 17:2)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.

ACCESSION NR: AP3009487

"In conclusion, the author expresses deep thanks to Professor A. F. Dyubyuk for his attention to the work and his valuable advice." Orig. art. has: 11 formulas and 2 figures.

ASSOCIATION: Kafedra fiziki atmosfery*, Moskovskiy universitet (Department of Atmospheric Physics, Moscow University)

SUBMITTED: 00	DATE ACQ: 08Nov63	ENCL: 00
SUB CODE: ES	NR REF SOV: 00	OTHER: 000

Card 4/4

ACCESSION NR: AP3009487

triple integrals. The procedure for solution on an electronic computer proved to be rather complex. In this article the solution is sought in general form for marginal problems. The problem is solved for deviations of unknown functions from their values definable by the general west-east transfer. The existence of a west-east transfer in the middle latitudes and superposition of the movement on some "basic current" are assumed. The solution is for a closed limited volume. The field is calculated on an electronic computer with a large memory by the use of the following formula:

$$Q'' = \sin(\sigma_{mnk}\tau)\left\{\frac{16\mu_1}{l\pi^3}\left[\frac{1}{9}\cos\frac{\pi\xi}{L_1}\cos\frac{\pi\eta}{L_2}\cos\frac{\pi z}{2H}\right]+\right.$$

$$+\frac{4}{l}\mu_1\cos\frac{2\pi\xi}{L_1}\cos\frac{2\pi\eta}{L_2}\cos\frac{\pi z}{H}+\frac{16}{l\pi^3}\mu_1\left[\cos\frac{2\pi\xi}{L_1}\sum_{K=1}^{\infty}\frac{\cos\frac{k\pi\xi}{L_1}}{K}-\right.$$

$$-\frac{2}{3}\cos\frac{\pi\xi}{L_1}-\frac{1}{4}-\frac{1}{8}\cos\frac{2\pi\xi}{L_1}\left]\left[\cos\frac{2\pi\eta}{L_2}\sum_{K=1}^{\infty}\frac{1}{K}\cos\frac{k\pi\eta}{L_2}-\frac{2}{3}\cos\frac{\pi\eta}{L_2}-\right.\right.$$

$$\left.\left.-\frac{1}{4}-\frac{1}{8}\cos\frac{2\pi\eta}{L_2}\right]\cos\frac{\pi z}{2n}\right\}. \qquad (10) \quad (3)$$

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ACCESSION NR: AP3009487

casts of meteoric fields based on equations of the mechanics of a compressible liquid. It also takes into account the west-east transfer and fringe and initial conditions. It uses the system of initial equations as proposed by A. F. Dyubyuk:

$$\begin{aligned} u_t - lv + Q_x &= -(\vartheta Q_x + uu_x + vu_y + wu_z) \equiv F_1, \\ v_t + lu + Q_y &= -(\vartheta Q_y + uv_x + vv_y + wv_z) \equiv F_2, \\ w_t + Q_z &= -[\vartheta (Q_z - g) + uw_x + vw_y + ww_z] \equiv F_3, \\ \frac{1}{c^2} Q_t + u_x + v_y + w_z &= -\frac{1}{c^2} [uQ_x + vQ_y + w (Q_z - g)] \equiv F_4, \end{aligned} \tag{1}$$

$$\vartheta_t + \frac{AR}{c_v} (u_x + v_y + w_z) = \frac{AR}{c_v} \vartheta (u_x + v_y + w_z) - (u\vartheta_x + v\vartheta_y + w\vartheta_z) \equiv F_5, \tag{2}$$

where u, v, w are components of wind velocity along axes x, y, z; $l=2\omega\sin\varphi$ Coriolis' parameter, g acceleration due to gravity, ω angular velocity of the earth's rotation, φ latitude. In previous papers by Dyubyuk and Berezin, the solution of these equations for unlimited half space was found in the form of

Card 2/4

ACCESSION NR: AP3009487 S/0188/63/000/005/0028/0033

AUTHOR: Berezin, V. M.

TITLE: One boundary problem in atmospheric pressure forecasting according to a complete system of hydrodynamic equations

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fizika, astronomiya, no.5, 1963, 28-33

TOPIC TAGS: pressure, atmospheric pressure, weather forecasting, hydrodynamics, hydrodynamic equation, atmospheric dynamics, wind, geostrophic wind, acoustic vibration, atmospheric current, air current, meteorology

ABSTRACT: The development of new methods of weather forecasting based on solution of the system of initial equations of atmospheric dynamics rather than the integration of equations of geostrophic wind is assuming great importance. The general approach to the solution is a direct continuation and development of the numerical method of forecasting as proposed by L. Richardson. A system of hydrodynamic equations is used, and this includes acoustic vibrations, the vertical component of wind velocity. Thus, the solution of the problem should be applicable to fore-

Card 1/4

BEREZIN, V.M.

Oil recovery from samples of Devonian sandstones and the lower Carboniferous coal-bearing series of Bashkiria in water flood operations. Trudy VNII no.24:79-102 '59.
(MIRA 13:5)

(Bashkiria--Sandstone--Permeability)

BEREZIN, V. M., Candidate Geolog-Mineralog Sci (diss) -- "Methods of determination and the characteristics of the initial oil-and-water saturation and oil yield of productive rock of the Devonian and Carboniferous deposits of Bashkiria". Ufa, 1959. 12 pp (Min Higher Educ USSR, Kuybyshev Industrial Inst im V. V. Kuybyshev, Ufa Petroleum Sci Res Inst UFNII), 120 copies (KL, No 25, 1959, 129)

SOV/124-58-10-11337

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 92 (USSR)

AUTHOR: Berezin, V.M.

TITLE: Determination of the Amount of Oil Displaced by Water From Cemented Rock Specimens (Opredeleniye nefteotdachi obraztsov stsementirovannykh gornykh porod pri vytesnenii nefti vodoy)

PERIODICAL: Tr. Ufimsk. neft. n.-i. in-t, 1957, Nr 2, pp 140-154

ABSTRACT: An account of methods and results of laboratory experiments on the determination of the amount of oil displaced by water under pressure. A great deal of attention is devoted to the preparation and mounting of specimens in various types of core-holders, as well as to preparation of a special simulated petroleum. The amount of displaced oil was determined by the volumetric method or by the method of drying followed by a calorimetric analysis. The experimental results are arranged in form of tables and graphs representing the oil yield as a function of the water/oil factor. Bibliography: 5 references.

M.V. Filinov

Card 1/1

BERMZIN, V.M.

New methods for determining oil content in rock samples. Trudy UFNII no.2:132-139 '57. (MIRA 12:1)
(Rocks--Analysis)

ANTONOV, D.A.; BEREZIN, V.M.

New method for determining residual water content in rock samples. Trudy UFNII no.2:128-131 '57. (MIRA 12:1)
(Rocks--Analysis)

ACCESSION NR: AP4013147

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet, Fizicheskiy fakul'tet (Moscow State University, Physics Department)

SUBMITTED: 04Jul63	DATE ACQ: 02Mar64	ENCL: 00
SUB CODE: AS, PH	NO REF SOV: 006	OTHER: 003

Card 3/3

ACCESSION NR: AP4013147

to the reciprocal value of time for half restoration of photochemical equilibrium) satisfactorily describes possible changes in vertical ozone distribution. This is confirmed particularly by sample computation of ozone distribution with zero initial distribution. The coefficient of turbulent diffusion in combination with vertical velocity has a fundamental effect on diminution of total ozone content during ascending currents and on increase during descending currents. Computations have shown that, when there is no vertical velocity, diffusion has no noticeable effect on the distribution of ozone. When turbulence is insignificant in the troposphere and lower stratosphere during ascending movements, two secondary maximums of concentration appear at low altitudes. These maximums fuse into one, weakly defined, when turbulence increases. Descending movements, especially during increased turbulence, do not favor development of secondary maximums. The presence of ascending and descending currents in cyclones and anticyclones leads to accumulation of ozone upward and decrease in ozone downward in the cyclone. The reverse is true in the anticyclone. This may give rise to a horizontal ozone gradient over extensive regions and also to a horizontal gradient within individual layers. Orig. art. has: 2 figures, 2 tables, and 7 formulas.

Card 2/3

ACCESSION NR: AP4013147 S/0203/64/004/001/0131/0136

AUTHORS: Berezin, V. M.; Shafrin, Yu. A.

TITLE: Computing the vertical distribution of atmospheric ozone

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 1, 1964, 131-136

TOPIC TAGS: ozone, atmospheric ozone, vertical distribution, troposphere, stratosphere, turbulence coefficient, anticyclone, cyclone, horizontal ozone gradient

ABSTRACT: The authors have based their work on average vertical ozone distribution above Arosa. The difference scheme

$$\frac{\rho_{i,j+1}-\rho_{i,j}}{l}-\frac{D_i(\rho_{i+1,j}-2\rho_{i,j}+\rho_{i-1,j})}{h^2}-(\dot{D}_z-w)_i\frac{\rho_{i+1,j}-\rho_{i-1,j}}{2h}+$$
$$+(\alpha+c)\rho_{i,j}=\alpha\rho_{0i},$$

(where l and h represent steps of time and the coordinate, i and j the coordinate and time number of the step, ρ the ozone density, D the coefficient of turbulent diffusion, w the vertical velocity of the air, and $\alpha = 1/\tau$ is a coefficient equal

Card 1/3

BEREZIN, V.M.

Numerical calculation of the atmospheric pressure field using the complete system of hydrodynamic equations. Vest.Mosk.un. ser.3: Fiz.,astron. 17 no.6:82-83 N-D '62. (MIRA 15:12)

1. Kafedra fiziki atmosfery Moskovskogo universiteta.
(Atmospheric pressure) (Hydrodynamics)

A problem of forecasting the ...

$\Delta t = t - t_0$, this solution can be obtained with a wide step and electronic computers.

ASSOCIATION: Kafedra fiziki atmosfery (Department of Physics of the Atmosphere)

SUBMITTED: May 22, 1961

Card 4/4

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800011-6

$$\bar{Q}' = \sum_{m=1}^{\infty}\sum_{n=1}^{\infty}\left[-\frac{g}{\varkappa_{mn}}e^{-\varkappa_{mn}z}\hat{\vartheta}'_{mn} - \int_0^{\infty}\bar{f}_{mn}\frac{1}{2\varkappa_{mn}}\left(e^{-\varkappa_{mn}|z-z'|} + e^{\varkappa_{mn}|z+z'|}\right)dz'\right]\times$$

$$\times \sin\frac{m\pi\xi}{L_1}\sin\frac{n\pi\eta}{L_2}, \qquad (12)$$

with

$$\bar{f}_{mn} = \frac{4}{L_1L_2}\int_0^{L_1}\int_0^{L_2}\left(\frac{p^2\Delta\hat{Q}'}{p^2+l^2} + \frac{p\Delta\hat{Q}'_t}{p^2+l^2} + \frac{gl^2}{p^2+l^2}\cdot\frac{\partial\hat{\vartheta}'}{\partial z}\right)\frac{1}{2\varkappa_{mn}}\times$$

$$\times \sin\frac{m\pi\xi}{L_1}\sin\frac{n\pi\eta}{L_2}d\xi d\eta. \qquad (11),$$

where $\varkappa^2 = p^2d^2_{mn}/(p^2+l^2)$ with $d^2_{mn} = \pi^2\left[\left(m^2/L_1^2\right) + \left(n^2/L_2^2\right)\right]$. The extensive solution Q, obtained by inverse Laplace transformation, contains improper integrals of Bessel functions with respect to z, and of trigonometric and Bessel functions with respect to time. For a given time interval

A problem of forecasting the ...

$$\frac{\partial^2 \overline{Q}'}{\partial z^2} + \frac{p^2}{p^2 + l^2}\overline{\Delta' Q'} = \frac{1}{p^2 + l^2}\left(p^2 \Delta \overset{\circ}{Q}' + p\Delta \overset{\circ}{Q}_l' + gl^2 \frac{\partial \overset{\circ}{\vartheta}'}{\partial z}\right) = \overline{F}, \quad (6).$$

$\overline{Q}'$, $\overline{\Delta' Q'}$, and $\overline{F}$ are mappings of functions. Moreover, $\vartheta = \vartheta'$, $Q = \overline{Q} + Q'$; $Q = RT_o \ln(P/P_o) + gz$; g denotes gravitational acceleration, and l is the Coriolis parameter. The quantities with superscript zero denote their values at t = 0. By formulating the solution as

$$\overline{Q}' = \sum_{m=1}^{\infty} \sum_{n=1}^{\infty} A_m(\xi) B_n(\eta_l) D_{mn}(z), \quad (7)$$

$$A_m(\xi) = \sin \frac{m\pi\xi}{L_1}; \quad B_n(\eta_l) = \sin \frac{n\pi\eta_l}{L_2}.$$

one obtains

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S/188/62/000/002/005/013
B125/B102

3.5000
3.5110

AUTHORS: Dyubyuk, A. F., Berezin, V. M.

TITLE: A problem of forecasting the atmospheric pressure field

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 2, 1962, 36-40

TEXT: The atmospheric pressure field is forecast by solving (in geostrophic approximation) the complete system of hydrodynamic equations in a volume bounded by the coordinate planes. The problem is infinite as regards the vertical coordinate. In the atmosphere regarded as an ideal fluid, where $1/c^2 \approx 0$ (c = sonic velocity), the air masses are mainly transferred (as an adiabatic process) at geostrophic velocity with the components $\overline{U}$ and $\overline{V}$. After a passage to the coordinate system of the main current, the linearized, initial system of hydrodynamic equations in the earth-bound coordinate system furnishes a partial differential equation of the Sobolev type from which, by a Laplace-Carson transformation, one obtains

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thermodynamic equations was used for an adiabatic process. This system of equations consisting of five differential equations was solved with the aid of the operational method by making use of the transformation according to Laplace - Carson and Fourier. The solution is given and explained, and the course of computation is shown as well. S. L. Sobolev (Ref. 2) is mentioned in this connection. The author thanks his scientific guide, Professor A. F. Dyubyuk, for his great interest, help and valuable advice. There are 8 Soviet references.

ASSOCIATION: Moskovskiy universitet Kafedra fiziki atmosfery
(Moscow University, Chair of Physics of the Atmosphere)

SUBMITTED: December 22, 1959

S/188/60/000/004/005/014
B005/B060

AUTHOR: Berezin, V. M.

TITLE: The Problem of a Short-term Forecast of the Pressure Field

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 4, pp. 38-42

TEXT: The present paper gives a solution for the complete system of hydrodynamic equations in geostrophic approximation in regard of those variables which enter the linear parts of the equations. The solution obtained served for numerically computing a short-term forecast of the atmospheric pressure field. An electronic computer was used for this purpose. Professor A. F. Dyubyuk (Ref. 1) had investigated the problem of a short-term forecast for the pressure field and for the kinematic field of the atmosphere. In his work, however, he had considered isothermal systems only. The author of the present paper took account of the heat advection in his computations. In the latter, the atmosphere was treated as an ideal fluid, and the fundamental system of hydrodynamic and

Card 1/2

BEREZIN, V.L.; BOBRITSKIY, N.V.; KHAKIM'YANOV, R.R.; AZEVICH, S.P.

Selecting the proper conditions for the elimination of corrosion damage to operational petroleum-products pipelines by the application of patches. Izv. vys. ucheb. zav.; neft' i gaz. 8 no.5:89-92 '65. (MIRA 18:7)

1. Ufimskiy neftyanoy institut.

BEREZIN, V.L.; RASHCHEPKIN, K.Ye.; TIMERBAYEV, N.Sh.; YASIN, E.M.; SULTANMURATOV, Kh.F.; GUMEROV, A.G.; ZAKHAROV, I.Ya.

Experimental study of tension state of a pipeline during capital repair. Izv. vys. ucheb. zav.; neft' i gaz 7 no.10: 89-91 '64. (MIRA 18:2)

1. Ufimskiy neftyanoy institut.

BEREZIN, V.L.; BOBRITSKIY, N.V.; KHAKIM'YANOV, R.R.; AZEVICH, S.P.

Selecting the technology of the sealing of cavities in petroleum pipelines in case of overhauling. Izv. vys. ucheb. zav.; neft' i gaz 7 no.11:71-75 '64. (MIRA 18:11)

1. Ufimskiy neftyanoy institut.

BEREZIN, V.I.; RASHCHEPKIN, K.Ye.; YASIN, E.M.

Calculation of stresses in the wall of a pipe in nonsymmetrical pipeline hoisting. Izv. vys. ucheb. zav.; neft' i gaz 6 no.7: 95-101 '63. (MIRA 17:8)

1. Ufimskiy neftyanoy institut.

BEREZIN, V.L.; GUMEROV, A.G.; RASHCHEPKIN, K.Ye.

Performance of petroleum-plant tanks. Transp. i khran. nefti no. 3:19-21 '63. (MIRA 17:7)

1. Ufimskiy neftyanoy institut i Nauchno-issledovatel'skiy institut po transportu i khraneniyu nefti i nefteproduktov.

BEREZIN, V.L.; BOBRITSKIY, N.V.

Improving the quality of the weld joints of oil and gas pipelines through electric-contact flash welding. Izv. vys. ucheb. zav.; neft' i gaz 6 no.1:93-97 '63. (MIRA 17:10)

1. Ufimskiy neftyanoy institut.

BEREZIN, V.I.

Calculation and interpretation of the vibration spectra of pyrazine, s-triazine, s-tetrazine, and some of their deutero-substituted compounds. Planar vibrations. Opt. i spektr. 16 no.2:240-245 F '64. (MIRA 17:4)

BEREZIN, V.L.; RASHCHEPKIN, K.Ye.; YASIN, E.M.

Selection of boundary conditions in lifting an infinite pipeline. Izv.vys.ucheb.zav.; neft' i gaz 6 no. 12:69-74 '63. (MIRA 17:5)

1. Ufimskiy neftyanoy institut.

BEREZIN, V.L.; RASHCHEPKIN, K.Ye.

Stresses in operating pipelines occurring in major repairs as a result of the deformation of tamped trenches. Izv. vys. ucheb. zav.; neft' i gaz 6 no.4:71-74 '63. (MIRA 16:7)

1. Ufimskiy neftyanoy institut.
(Pipelines—Maintenance and repair)
(Strains and stresses) (Earthwork)

RASHCHEPKIN, K.Ye.; BEREZIN, V.L.

Stressed state of a working pipeline during overhauling.
Izv. vys. uch. zav.; neft' i gaz 5 no.9:77-81 '62.
(MIRA 17:5)

1. Ufimskiy neftyanoy institut.

BEREZIN, V. L.

124-1957-10-12203

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 138 (USSR)

AUTHOR: Berezin, V. L.

TITLE: Tests of Seamless Pipe Joints Welded by Contact Welding Using a Ring Transformer (Ispytaniye tselykh stykov trub, svarennykh kontaktnoy svarkoy s primeneniyem kol'tsevogo transformatora)

PERIODICAL: Sb. tr. Ufimsk. neft. in-ta, Nr 1, pp 117-123

ABSTRACT: Destructive mechanical tests in tension on a 100-t machine were conducted on steel pipes with a diameter of 102 x 8 and 76 x 5 mm.

V. K. Pereverzev

Card 1/1

TARAN, V.D., professor doktor tekhnicheskikh nauk; BEREZIN, V.L., kandidat tekhnicheskikh nauk.

Study of characteristics of electric butt welds. Strei.pred.neft.prom. 1 no.2:13-17 Ap '56. (MLRA 9:9)
(Electric welding) (Petroleum--Pipelines)

BEREZIN, V. L. (Aspirant)

"An Investigation of Electric Spot Welds in Principal Petroleum-Gas Pipelines." Cand Tech Sci Moscow Order of the Labor Red Banner Petroleum Inst imeni I. M. Gubkin, 28 Dec 54. (VM, 17 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: SUM No. 556, 24 Jun 55

L 31134-66

ACC NR: AP6012859

2

Table 1. Main parameters and oscillation thresholds for SRS

Substance	$\Delta\nu$, cm^{-1}	ν_B, cm^{-1}	δ, cm^{-1}	I_0/I_{ν_B}	$I_0/\delta/(I_{\nu_B}/\delta_{\nu_B})$	n_D	exp. I	cal. I
benzene	992	13411	1,8	1	1	1,50	1	1
1,3-pentadiene	1655	12748	15	1,6	0,2	1,43	0,5	0,25
3-methyl-1,3-butadiene	1638	12765	7	1,3	0,3	1,42	0,5	0,40
carbon disulfide	656	13747	1	1,6	3	1,63	1,6	2,24
styrene	998	13405	2	0,7	0,6	1,55	0,6	0,55
styrene	1602	12801	3	0,9	0,6	1,55	—	0,59
styrene	1634	12769	3	1,6	0,9	1,55	0,9	0,90
toluene	1003	13400	1,6	0,37	0,4	1,50	0,5	0,42
chlorobenzene	1002	13401	1	0,45	0,8	1,52	1	0,78
bromobenzene	1001	13402	1	0,50	0,9	1,56	1,1	0,81
pyridine	992	13411	1,2	0,46	0,8	1,51	1	0,82

1/I for substances investigated in the present paper and in an earlier paper by three of the authors (Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, 1964, p. 784) are compared with the theoretical values derived by using formula (1) (see Table 1). The value of 1/I for the line $\Delta\nu = 992$ cm^{-1} in benzene was taken to be unity. Since the values of $n(\nu_B)$ for a ruby laser source were unavailable, the values of n for the D-line of sodium (n_D) were used in the calculations. Orig. art. has: 17 formulas and 1 table. [CS]

SUB CODE: 20/ SUBM DATE: 17Mar65/ ORIG REF: 004/ ATD PRESS: 4240

Card 2/2

L 31134-66 EWP(i)/EWT(l)/EWT(m)/EWP(e) RM/WH

ACC NR: AP6012859 SOURCE CODE: UR/0368/66/004/0351/0353

AUTHOR: Berezin, V. I.; Zubov, V. A.; Kats, M. L.; Kovner, M. A.; Sidorov, N. K.; Stal'makhova, L. S.; Sushchinskiy, M. M.; Turbin, Yu. P.; Shubalov, I. K.

ORG: none

54
52
B

TITLE: Intensities and line thresholds of stimulated Raman scattering

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 4, 1966, 351-353

TOPIC TAGS: laser, stimulated emission, Raman scattering, stimulated Raman scattering

ABSTRACT: The relative values for the threshold I for the intensity of the exciting light necessary to attain stimulated Raman scattering in toluene, chlorobenzene, and pyridene have been measured. Using a theory of SRS developed by P. A. Apanasevich and B. I. Stepanov (Zhurnal prikladnoy spektroskopii, v. 1, 1964, p. 202), the authors derived the following formula

$$I_B/I = (I_\infty/\delta)/(I_\infty/\delta)_B \quad \nu^3_{\beta B}/\nu^3_\beta \quad n^3_B/n^3, \qquad (1)$$

where I_∞ is the integral intensity of the SRS line, δ is the line width, ν_β is the frequency of the scattered light, n is the index of refraction, and the subscript B identifies these quantities for benzene. The experimental values of

Card 1/2 UDC: 535.22/36

BEREZIN, V.I.

Calculation and interpretation of the vibrational spectrum of N-oxypyridine. Opt. i spektr. 18 no.2:212-216 F '65.

(MIRA 18:4

BEREZIN, V.I.

Calculation and interpretation of the vibrational spectrum of pyridazine. Opt. i spektr. 18 no.1:136-139 Ja '65.

(MIRA 18:4)

BEREZIN, V.I.; POTAPOV, S.K.

Calculation and interpretation of the vibrational spectrum of pyrimidine. Opt. i spektr. 18 no.1:45-48 Ja '65.

(MIRA 18:4)